REMARKS

Applicant respectfully requests reconsideration of this application as amended. Claims 1-23 are currently pending in the application. Claims 1-23 have been cancelled. Claims 24-47 have been added. Therefore, claims 24-47 are presented herein for examination.

35 U.S.C. §103 Rejections

•   The Examiner has rejected claims 1-6, 16-18, and 21-22 under 35 U.S.C. §103(a) as being unpatentable over material identified by the Examiner as admitted prior art and U.S. Patent No. 5,392,404 of Thompson ("Thompson").

•   The Examiner has rejected claims 7 and 9-15 under 35 U.S.C. §103(a) as being unpatentable over material identified by the Examiner as admitted prior art and U.S. Patent No. 5,771,356 of Leger, et al. ("Leger").

•   The Examiner has rejected claims 8, 19-20, and 23 under 35 U.S.C. §103(a) as being unpatentable over material identified by the Examiner as admitted prior art, Leger, and Thompson.

The claims rejected by the Examiner have been cancelled. Without any concession regarding the rejection of such claims, it is submitted that the claims presented herein are allowable for at least the following reasons:

Claim Elements -- **Claim 24** provides as follows:

24.   A method comprising:

transferring read data from a first agent, the first agent being coupled to a half-duplex bus;

issuing a preempt signal from a second agent, the second agent being coupled to the half-duplex bus;

determining whether to allow preemption of the read data based at least in part on pending read requests; and

if preemption is allowed:

determining a suitable point to preempt the read data transfer;

temporarily halting the read data transfer,

transferring a read data request from the second agent to the first agent, and

resuming the read data transfer.

Therefore, claim 24 includes issuing a preemption signal, determining whether to allow preemption of read data based at least in part on pending read requests, temporarily halting read data transfer, and resuming the read data transfer. Among other differences, it is submitted that such elements are not taught or suggested by the references cited by the Examiner.

Preemption and Resumption of Operation -- While **Thompson** refers to preemption signals, these signals have a different intention and effect than the signals described in claim 1. Thompson does not provide for temporarily halting transfer of read data. Instead, Thompson deals with systems and methods for transferring control of a system bus. "It is an object of the present invention, then, to provide preemption control logic which recognizes system bus control requests made by a second bus master device while a first bus master device is in control of the bus, and prompts the first bus master device to relinquish control of the bus to the second bus master device, thereby insuring efficient and effective data transfer over the system bus." (Thompson, col. 1, lines 61-68) "When all three of the above conditions are met, the PREEMPT signal 38 is driven active high, indicating to any I/O device currently in control of the system bus 12 that another I/O device has requested access to the bus and that the controlling I/O device must

relinquish control of the bus to the requesting device." (Thompson, col. 4, lines 59-65)

There is no suggestion in Thompson regarding temporarily halting read data transfer, transferring a read data request, and resuming the read data transfer.

The **Leger** reference involves data transfer for a FIFO buffer, and allows the system bus to be acquired "casually" or "aggressively", providing certain rules for acquiring and relinquishing the bus based on prior use and thresholds such as "soft" and "hard" thresholds. There is no discussion of temporary preemption or what may occur after a device obtains control of the system bus from another device. Again, there is no suggestion regarding temporarily halting read data transfer, transferring a read data request, and resuming the read data transfer.

Preemption Determination -- In addition to other differences, Thompson does not contain the elements of claim 24 regard to the allowance of preemption and determination of a suitable point for preemption. For instance, Thompson provides that:

> The response of the I/O device to the PREEMPT signal depends on
> the manner in which the I/O device is programmed. For example, the I/O
> device may respond by immediately relinquishing the system bus 12, or
> may alternatively respond by maintaining control of the system bus for a
> predetermined time before relinquishing control.

(Thompson, col. 6, lines 50-56) Thompson thus suggests that preemption may occur immediately or after waiting a certain amount of time. Thompson provides no teaching or suggestion that an agent make a determination regarding whether to allow preemption based at in part on pending read requests. Further, there is no teaching or suggestion regarding determination of an appropriate time to preempt transmission.

To the degree that the operation of the system described in Leger is applicable here, Leger describes an operation in which a bus has been casually obtained, and in

which the casual control over the bus can be relinquished if there is request by another device and certain factors are met. For example:

> This casual bus mastership is relinquished when another device requests the use of system bus 204 and the current data block transfer is complete. On the other hand, when FIFO empty space 404 exceeds hard threshold 402 as shown in FIG. 4c, additional data is urgently needed for transmission by transmit FIFO 305 since the FIFO is almost empty. In this case, system bus 204 is aggressively and actively acquired for data transferring into transmitter FIFO 305. The aggressive control of system bus 204 is relinquished only after the entire intended data transfer is complete.

(Leger, col. 5, lines 33-43) The system described in Leger bases acquiring and relinquishing bus control on the amount of empty space left in the FIFO buffer. In addition to other differences, Leger does not teach or suggest basing a determination of whether to allow preemption at least in part on *pending read requests*.

It is noted that the Office Action states that "Since the bus is only contended by two agents (the memory controller and the I/O bridge), such that the bus ownership is alternated between two agents. Hence, the combination of the admitted prior art and Thompson includes the returning means." First, the Office action cannot combine any "admitted prior art", or any other possible reference, unless there is motivation shown for the combination, which is not shown herein. Further, the fact that a particular example shown in the present application for purposes of simplification shows only two agents does not lead to the conclusion that control inevitably returns to the original transmitter. It is respectfully submitted that, with regard to a concept of temporary preemption, the Office Action fails to demonstrate any teaching or suggestion regarding return of bus control.

Half-Duplex Bus Operation -- It is further noted that all claims presented herein relate to operation of a half-duplex bus, which have particular operational characteristics and limitations. Neither Thompson nor Leger makes any mention of operation of a half-duplex bus. There is no motivation for combining Thompson and Leger with any reference regarding half-duplex bus operation.

The statements in the Office Action indicating that it would have been obvious to combine teaching with "the typical I/O environment" do not provide any evidence of motivation for the combination of references. There is no single "typical" I/O environment. The argument presented in the Office Action would apparently allow the combination of the references with any environment that is claimed to be "typical" for purposes of demonstrating obviousness. It is respectfully submitted that combination of references, as presented in the Office action, is not appropriate.

It is submitted that the above arguments also apply to independent claims **30, 38, and 43**. The remaining claims are dependent claims and are allowable because they are dependent on the allowable base claims.

Conclusion

Applicants respectfully submit that the rejections have been overcome by the amendment and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicants respectfully request the rejections be withdrawn and the claims as amended be allowed.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Request for an Extension of Time

Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17(a) for such an extension.

Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: 5/19/03

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